
INDONESIA'S EVOLVING INTERNATIONAL RELATIONSHIPS IN THE NINTH TO EARLY ELEVENTH CENTURIES: EVIDENCE FROM CONTEMPORARY SHIPWRECKS AND EPIGRAPHY¹

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This study juxtaposes two sources of information: shipwrecks and epigraphic records that mutually document the critical ninth- to early eleventh-century era on Java's north coast. The newly available shipwreck artifacts include a series of trade commodities with implications about the nature of trade and its connection with the types of religious and diplomatic relations found in the written sources. The trade artifacts, paired with the surviving Java epigraphic data, offer information about historical processes, networks, hierarchies, and culturally mediated tensions and synergies that were foundational to Java's regional and global interaction. Past historiography of Java has been heavily biased toward the inland kingdoms of the period after Dutch contact, how the ensuing loss of control over ports constrained the Javanese to focus on agriculture, and how the roots for this later alienation date to the

¹ This study has evolved from my 2003–04 Fulbright-funded research in Java based at Gadjah Mada University's Center for Comparative Religious and Cross-Cultural Studies and subsequent guest lectures delivered at Cornell University and the University of Hawai'i in 2007; with thanks to the faculty and students of Gadjah Mada University and both Southeast Asia programs for their insightful responses, and the subsequent encouragement of Eric Tagliocozza.

pre-1500 era. New archaeological evidence may help to correct this imbalance, but as yet, despite the mounting evidence for the involvement of Java's north coast in intensive sea trade by the ninth century, no port site of this period has been identified, and there is little substantive evidence of coast-hinterland relations. Consequently, the coast and the hinterland have been seen in past historiography as two very separate realms, with ports-of-trade as virtually autonomous "foreign" entities on the periphery of the Java hinterland.

At present the only excavations of a purported port site associated with downstream settlements have been in west Java, where there are four undated mid-to-late fifth-century inscriptions of the King Purnavarman, who ruled the Tarum River basin just east of present-day Jakarta, a land known in the inscriptions as Tarumanagara.² The Purnavarman inscriptions are notable for their record of three initiatives by the king: his efforts to improve coincidentally his port and develop local agriculture in the river delta region by building a dam; his claimed military victories over his local political rivals, which are said to be the basis of new societal stability, but are unaccompanied by any coincidental effort to sustain a naval force to impose his authority over visiting or part-time resident maritime diaspora;³ and his promotion of Indic religion, specifically his localization of Visnu worship, as evidenced by the locally symbolic empowered feet of the monarch shown in an associated stone carving depiction of Visnu's footprints.⁴

While there are no as yet known archaeological sites to substantiate the tenth-century east Java inscriptions that are focal in this study, the newly found shipwreck remains provide the opportunity to explore the contemporary Java coast setting, as the east Java downstream ports documented by the inscriptions were likely ship destinations. The inscriptions acknowledge international merchant presence;

² J. Ph. Vogel, "The Earliest Sanskrit Inscriptions of Java," *Publicaties van de Oudheidkundige Dienst in Nederlandsch-Indie* 1 (1925): 15–35; J. G. de Casparis, *Indonesian Palaeography* (Leiden: E. G. Brill, 1975), pp. 18–20; H. B. Sarkar, *Corpus of the Inscriptions of Java (up to 928 AD)*, vol. 1 (Calcutta: Firma K. L. Mukhopadhyay, 1971), pp. 1–12; J. Noorduyn and H. Th. Verstappen, "Purnavarman's River Works Near Tugu," *Bijdragen tot de Taal-, Land, en Volkenkunde van Nederlandsch-Indie* (BKI) 128 (1972): 298–307.

³ This is in contrast to the contemporary evolving maritime emporium of Srivijaya, on the neighboring and competing southeast Sumatra coastline. See Pierre-Yves Manguin, "Palembang and Sriwijaya: An Early Malay Harbour-City Rediscovered," *Journal of the Malaysian Branch of the Royal Asiatic Society* (JMBRAS) 66 (1993): 23–46; and Hermann Kulke, "Kadatuan Srivijaya: Empire or Kraton of Srivijaya? A Reassessment of the Epigraphical Evidence," *Bulletin de l'Ecole Française d'Extrême Orient* (BEFEO) 81,1 (1993): 159–80. G. Coedes and L.-Ch. Damais, *Srivijaya: History, Religion, and Language of an early Malay Polity*, ed. P. Y. Manguin (Kuala Lumpur: Malaysian Branch of the royal Asiatic Society, 1992) includes a representative summary of earlier studies.

⁴ Recent archaeological work at Tarumanagara-related west Java sites has revealed two networked temple compounds, the larger of which is Buddhist and overlaps with the height of the Srivijaya age (c. 600–1025); the second is associated with a smaller site that has produced two Visnu statues. See Pierre-Yves Manguin and Agustijanto Indrajaya, "The Archaeology of Batujaya (West Java, Indonesia): An Interim Report," in *Uncovering Southeast Asia's Past*, ed. Elisabeth A. Bacus, Ian C. Glover, and Vincent C. Pigott (Singapore: National University of Singapore Press, 2006), pp. 245–57. These excavations, paired with others Manguin and Indonesian archeologists are conducting in the Sunda Strait region, will provide the basis for a major rethinking of current views of this region's maritime history. See also N. Dalsheimer and P. Y. Manguin, "Visnu mitrés et réseaux marchands en Asie du Sud Est: nouvelles données archéologiques sur le Ier millénaire apr. J.-C.," *BEFEO* 85 (1998): 87–123. J. Van der Meulen, S.J., "In Search of Ho-ling," *Indonesia* 23 (April 1977): 104, relates the "footprints of Visnu" to a later inscription of the central Java ruler Sanjaya (732), where the center of a monarch's power is said to be in his feet, which are placed over the heads of his enemies.

associated craft production specific to the imported iron and other metals that were not indigenous to Java, as these are prominent in the shipwreck cargoes; the consequential negotiations between “alien” port communities and upstream-based political authorities; and the societal consequences. In such ports, the actions and interests of multi-ethnic merchants and artisans intersected with those of local rulers and agriculturalists, with wider implications relative to the future of maritime trade and societal development in the Indonesian region of the Indian Ocean.

The focal shipwrecks, a mix of Southeast Asian and Arab vessels that date from the late ninth century to the late tenth century, document Indonesia's importance at the critical Java Sea Straits of Melaka, crossroads of the “Maritime Silk Road,” which at that time became the alternative to the “Silk Road” caravan route across Central Asia. Not only do the shipwrecks have significance in documenting the emergence of global trade networks, but they also provide a valuable material supplement to the early epigraphy and Hindu and Buddhist temple site evidence as a window on early Indonesia's international and regional relationships and their local consequences.

Shipwreck Evidence of Ninth- and Tenth-Century Indonesia's Regional Trade Networks

I. The Belitung Wreck, c. 850 CE

A 1,200-year-old shipwreck from the western edge of the Java Sea, known as the Belitung wreck (since it sank in Indonesian waters off the coast of Belitung Island), was featured in the June 2009 *National Geographic* magazine.⁵ The article, which is a popular synthesis that is based on the research of underwater archaeologist Michael Flecker, a participant in the salvage operation,⁶ highlights the 60,000 pieces of recovered Tang Dynasty-era ceramics, in addition to notable gold and silver artifacts. One inscribed ceramic bowl provides the approximate time of the shipwreck: “the 16th day of the seventh month of the second year of the Baoli reign” (826 CE), which is thought to mark the date that the bowl was fired. The article's author describes the vast number of distinctive brown and straw-colored glazed ceramic “tea bowls”—otherwise named after the Changsha kilns in China's Hunan province where they were produced—as Tang “Fiestaware,” to acknowledge their production for broadly based (as opposed to exclusively aristocratic) consumption.⁷

The *National Geographic* article's secondary focus is on the recovered Arab dhow vessel, sixty feet long, with a raked prow and stern likely built of African or Indian wood and fitted with a single square sail. Notably, the ship was not fitted by dowels, as was the norm among contemporary Chinese and Southeast Asia-built ocean-going

⁵ Simon Worrall, “Made in China: A 1,200-year-old Shipwreck Opens a Window on Ancient Global Trade,” *National Geographic* (June 2009): 112–23.

⁶ John N. Miksic, Rosanna Brown, and Michael Flecker, *The Java Sea Wreck Archaeological Report*, ed. William M. Mathers and Michael Flecker (Annapolis, MD: Pacific Sea Resources, 1997). See www.maritime-explorations.com/balitung.htm (accessed March 21, 2010) for Michael Flecker's web-site description and photographs from the salvage operation, and Flecker's analysis of the wreck materials, as cited below.

⁷ Worrall, “Made in China,” p. 114, cites the widespread remnants of these ceramics throughout the Indian Ocean realm from Southeast Asia to the Middle East.

craft, but instead its planks were sewn together using coconut-husk fiber cord.⁸ In sum, the article reports the Tang dynasty's promotion of the Maritime Silk Road to Baghdad as a means for China to acquire a variety of Indian Ocean products such as fine textiles, pearls, coral, and aromatic woods, while guaranteeing that China was not drained of its precious metals (notably silver) in doing so. Thus, the mass "factory-like production" of ceramics for the export trade by five different kilns was an intentional state-coordinated enterprise.⁹ But transporting volumes of ceramics overland via the Central Asia passage on camels was not suitable. Instead, the Tang rulers (618–907 CE) promoted the maritime passageway, as it better suited their trade in ceramics. To insure their successful transport, the Changsha bowls were shipped in large stoneware jars, protected by rice straw ("an organic bubble wrap") padding.¹⁰

Michael Flecker, the archaeologist associated with most of the west Java Sea shipwreck salvage initiatives, provides the additional details on the Belitung shipwreck.¹¹ He notes that the Changsha bowls are distinctive in their decorations, which anticipated the variety of their Indian Ocean marketplaces. The decorative motifs include Buddhist lotus symbols, as well as makara fish and Chinese calligraphy for Buddhists; geometric decorations and Quranic inscriptions for the Islamic markets; and the white ceramicware and green-splashed bowls popular among Persian consumers. One bowl is inscribed with five loose vertical lines, which Flecker interprets as symbolic of Allah. There were 763 inkpots (as the Abbasid-era, 750–1258 CE, was notable for its handwritten rather than printed texts), 915 spice jars (appropriate for the storage of the valuable Indian Ocean spices, including those of Indonesia, that would make their way to Middle Eastern marketplaces), and 1,635 ewers (spouted ceramic water vessels appropriate for pouring water), also in high demand in contemporary Middle Eastern marketplaces.¹²

A distinctive cup of high-carat gold, one of five known examples of the type (as others were all found in China), was likely an item for diplomatic presentation. The cup includes the depiction of a Central Asian figure—rather than a Chinese—with long, curly hair and a thick beard. One side of the cup has figures in motion—a Persian dancer is clapping her hands above her head, and accompanying musicians play an assortment of instruments—reflecting the popularity of Persian music and dance in China during the Tang era.

⁸ Pierre-Yves Manguin, "Trading Ships of the South China Sea: Shipping Techniques and their Role in the History of the Development of Asian Trade Networks," *Journal of the Economic and Social History of the Orient (JESHO)* 36 (1993): 256–65.

⁹ Worrall, "Made in China," p. 118, citing John Miksic.

¹⁰ *Ibid.*, p. 114.

¹¹ Michael Flecker, "A Ninth-Century AD Arab or Indian Shipwreck in Indonesia: First Evidence for Direct Trade with China," *World Archaeology* 32,3 (February 2001): 335–54.

¹² John S. Guy, *Oriental Ceramics in South-East Asia, Ninth to Sixteenth Centuries* (Singapore: Oxford University Press, 1986), pp. 11–12.

II. Intan Wreck, c. 940 CE

The c. 940 CE west Java Sea Intan wreck is the earliest evidence of an Indian Ocean ship constructed in Southeast Asia.¹³ Southeast Asia ships of this era typically had V-shaped keeled hulls rather than the flat bottoms found on ships constructed in China. This wreck's keel was covered by curved planks, fitted with dowels, and then lashed with palm-fiber ropes similar to those found on the Belitung Arab dhow, and it had three to four sails. Typical of Southeast Asian ships of that age, as these are depicted on the ninth-century central Java Borobudur Buddhist stupa (see figure 1, below), the Intan ship had a large rudder roughly situated three-quarters of the way back on one side. Technically, the light weight of this construction, also characteristic of the Belitung wreck, was practical in that it allowed the ship to flex in the heavy seas. A navigational bowl compass recovered from the Intan shipwreck demonstrates local navigational sophistication. While the Belitung wreck's intended sea passage is not known, the merchandise it carried was evidently intended for sale in western Indian Ocean markets, and the Intan ship is thought to have sunk following a stopover in the contemporary Srivijaya entrepot at Palembang in southeast Sumatra, the dominant contemporary regional port-of-trade in that era.¹⁴ Based on its cargo, one can conclude that its final destination was to be a Javanese port.

That the ship intended to make stopovers at Java coast ports is documented by its substantial cargo of tin, which Flecker initially proposed was mined in the western Malay Peninsula Kedah coastal region.¹⁵ But, based on recent archaeological excavations, the tin was more likely to have come from Bangka Island, which was a known region of the Srivijaya realm, and would have been a logical stopover on the eastern end of the Straits of Melaka passageway prior to a vessel's departure for Java.¹⁶ The ship carried several tons of tin formed into pyramid-shaped ingots that lined the ship's bottom, as well as tin in alloy that was clearly from melted-down bronze objects. A cache of accompanying broken bronze artifacts suggests that the tin and alloyed tin shipments were to be used in local production of a variety of domestic and sacred objects. This is consistent with Java's total lack of iron or tin deposits, which required the import of these crucial metals that were vital to Java's contemporary society, as

¹³ Michael Flecker, "The Archaeological Excavation of the Tenth-Century Intan Shipwreck," *British Archaeological Reports International Series*, 1047 (Oxford: Archaeopress, 2002). See also Flecker's web-site, www.maritime-explorations.com/intan.htm (accessed March 21, 2010). The shipwreck is notable, as it dates to the Five Dynasties period (907–960 CE) interregnum prior to the early Song Dynasty (960–1279 CE), and would thus document regional trade prior to the reopening of China's ports to international trade when the Song came to power.

¹⁴ P.-Y. Manguin, "The Archaeology of the Early Maritime Polities of Southeast Asia," in *Southeast Asia from Prehistory to History*, ed. I. C. Glover and Peter Bellwood (London: RoutledgeCurzon, 2004), pp. 282–313; and O. W. Wolters, "Studying Srivijaya," *JMBRAS* 52,2 (1979): 1–52.

¹⁵ Alastair Lamb, "Kedah and Takuapa: Some Tentative Historical Conclusions," *Federated Museums Journal* 6 (1961): 69–88; B. A. V. Peacock, "Pillar Base Architecture in Ancient Kedah," *JMBRAS* 47,1 (1974): 66–86.

¹⁶ Bangka, off the coast from the Srivijaya Palembang emporium, was a source of iron, which may well have contributed to the selection of the adjacent Palembang coastline as the Srivijaya center. See Lucas P. Koestoro, P.-Y. Manguin, and Soeroso, "Kota Kapur (Bangka Indonesia): A Pre-Srivijayan Site Re-ascertained," in *Southeast Asian Archaeology 1994* (Hull: Centre of Southeast Asian Studies, 1994), pp. 61–81; and Pierre-Yves Manguin, "The Sumatran Coastline in the Straits of Bangka: New Evidence," *SPAFA Digest* 3,2 (1982): 24–29.

represented in the substantive remaining bronze and iron artifacts that date to this era.¹⁷

The shipwreck contained religious and consumer articles, including silver ingots from China, inscribed with "Sword office high grade silver of 52 *liang* certified by the officer Chen Xun." While the bulk metals were the major segment of the ship cargo, the distribution of the silver ingots at the shipwreck site attests that they were carried by diverse traders on shipboard as a trade item, as the traders would have used the silver ingots and Chinese silver and gold coinage in Java's marketplaces.¹⁸ The absence of large quantities of coinage among the ship's remains suggests that the traders did not need coinage to conduct business, but engaged in commodity trade and used local currencies where they were available in Southeast Asia at that time.¹⁹ The ship's cargo also included iron ingots cast in China, and iron cook pots and spear heads, profitable Java imports, as discussed below.²⁰

Among other cargo marketable merchandise were metallic domestic items: door hinges, jewelry, and weapons. There are two completed mirrors. One has Indonesian characteristics and the other Chinese, and was perhaps of Chinese origin. The Chinese mirror was 25 percent tin, alloyed with copper and lead. The end product was highly reflective, likely made from Malay tin shipped to China in ingots, alloyed, and cast in a high-quality mirror. All of these items are portrayed in ninth-century Borobudur temple relief: a woman uses the Java-design mirror to apply makeup and comb her hair, and wears jewelry similar to the gold rings and earrings, pendants, and beads found at the wreck site.²¹

There were small bronze standing Buddha icons, in a style common in eastern India at that time.²² Since Bengal, like Java, had no tin, seafarers could have previously transported tin from Kedah to Bengal, where local artisans made the icons, and then shipped these to Java; alternatively, since bronze and terracotta Buddhist miniatures are found at contemporary archaeological sites associated with the early Kedah ports, they could as well have been crafted in Kedah.²³ In addition, the shipment included several molds for local artisans to use to produce bronze and terracotta Buddhist

¹⁷ Jan Wisseman Christie, "Trade and Settlement in Early Java: Integrating the Epigraphic and Archaeological Data," in *Early Metallurgy, Trade, and Urban Centres in Thailand and Southeast Asia*, ed. I. Glover, P. Suchitta, and J. Villiers (Bangkok: White Lotus, 1992), pp. 181–95; also Bennet Bronson, "Patterns in the Early Southeast Asian Metals Trade," *Early Metallurgy, Trade, and Urban Centres in Thailand and Southeast Asia*, pp. 71–72.

¹⁸ Robert S. Wicks, *Money, Markets, and Trade in Early Southeast Asia: The Development of Indigenous Monetary Systems to AD 1400* (Ithaca, NY: Cornell Southeast Asia Program Publications, 1992), pp. 219–81.

¹⁹ Flecker, "Intan Shipwreck," p. 83. There are, however, several notable coinage finds, including a sandalwood flower gold coin (the largest known) that is consistent with coinage being used in Java at that time (see Wicks, *Money, Markets, and Trade*), and a Chinese gold coin with a 918 CE mint date. Flecker proposes that, based on the shipwreck evidence, the sandalwood flower gold coin, like other early sandalwood gold coins used in Java, was minted in the Srivijaya Sumatra realm, where gold was available, a resource that distinguished Sumatra from Java, where natural supplies of gold were rare and limited.

²⁰ Bronson, "Metals Trade," pp. 71, 89–90.

²¹ Flecker, "Intan Shipwreck," pp. 54–60.

²² *Ibid.*, p. 31.

²³ Alastair Lamb, *Chandi Bukit Batu Pahat: A Report on the Excavations of an Ancient Temple in Kedah* (Singapore: Eastern Universities Press, 1960) [reprint of *Federated Museums Journal*, 5, 1960].

miniature shrines; the icons produced by these molds appear in the Borobudur panel relief. These Buddhist icons were consistent with the international movement of Buddhist clerics and pilgrims in those times,²⁴ as Buddhism had been embraced by Java's kings as a means to transcend ethnic loyalties and societal institutions. Contemporary Buddhist shrines in Java, as elsewhere in Southeast Asia, were not erected over a relic of the Buddha (a tooth, cloth from his robe, or another material object attributed to the Buddha), as was done in China and India, but were built as monuments to dead kings, or in celebration of a monarch/monarchy. Inscriptions occasionally praise the Buddha as the local royal patron(s), consistent with regional traditions of ancestor worship.²⁵

Numerous artifacts discovered in the wreck were ritual objects associated with Vajrayana (Tantric) Buddhism: bells and a spear-shaped scepter, both objects of a kind portrayed on the Borobudur panels.²⁶ This evidence is consistent with the recent revisionist portrayal of the Borobudur stupa as a Vijrayana ritual complex, as would be appropriate, given the ninth-century Sailendra-era ritual and pilgrimage connections to contemporary Nalanda, in northern India, which at that time was the center of a new Asia-wide Tantric network.²⁷ Other ritual objects included a bronze lion's head finial, a bronze lotus bird, and ceremonial spears, vessels, and trays of the sort commonly used in Indic rituals. There was a unique set of incised and carved brass hinges and door decorations, too large for a house, but likely intended for a Javanese religious site.²⁸

The Intan shipwreck provided 245 similarly styled "eye beads," each with small drops of colored glass dropped on the bead surface to create dots—green, blue, and brown.²⁹ The bead trade was, like the tin trade, widely prominent in that age, as

²⁴ Tansen Sen, *Buddhism, Diplomacy, and Trade: The Realignment of Sino-Indian Relations, 600–1400* (Honolulu, HI: University of Hawai'i Press, 2003).

²⁵ See Ann R. Kinney, *Worshipping Siva and Buddha: The Temple Art of East Java* (Honolulu, HI: University of Hawai'i Press, 2003). See also John Miksic, "Double Meditation Platforms at Auradhapura and the Pendopo of Ratu Boko," *Saraswati Esai-Esai Arkeologi Kalpataru Majalah Arkeologi* 10 (1993–94): 23–31; and John Miksic, "The Manjusiragraha Inscription of Candi Sewu, Saka 714/ AD 792," in *Text and Contexts in Southeast Asia* (Yanong: Universities Historical Research Centre, 2003), pp. 23–31.

²⁶ Flecker, "Intan Shipwreck," pp. 36–41.

²⁷ Jefferey Roger Sundberg, "The Wilderness Monks of Abyayagirivihara and the Origins of Sino-Japanese Exoteric Buddhism," *Bijdragen tot de Taal-, Land-, en Volkenkunde* 160,1 (2004): 95–123; Susan L. Huntington and John C. Huntington, *Leaves of the Bodhi Tree: The Art of Pala India (8th–12th Centuries)* (Dayton, OH, and Seattle, WA: Dayton Art Institute and University of Washington Press, 1990).

²⁸ Flecker, "Intan Shipwreck," p. 54. See also Stewart Gordon, *When Asia Was the World* (Philadelphia, PA: DaCapo Books, 2008), pp. 63ff. Gordon, a specialist in Indian history, correctly connects the Intan wreck and portions of its cargo to India. The types of religious artifacts found on the Intan wreck are even more conspicuous in quantity on another major tenth-century shipwreck, recovered sixty miles (100 kilometers) off the Java north coast from Cirebon. Known as the Cirebon shipwreck, the vessel has been dated to roughly 968 CE, as this is the production date inscribed on a recovered Yue ware ceramic. The Cirebon wreck carried cargo similar to that found on the Intan vessel, with the exception that it had significantly more bronze religious artifacts, intended for temple worship, and Buddhist votive tablets, for wider public consumption, all of which are thought to have been produced in an unknown Sumatra production center for export to Java. The Cirebon ship was also, like the Intan wreck, a Southeast Asia-produced, lashed vessel, and it carried considerable numbers of iron ingots, relatively equal to the amount of iron stored in the Intan wreck. See Yvonne Tan, "Cirebon Cargo of Yue Ceramic Vessels," *Asian Art Magazine* (May 2007), posted on www.seaceramics.org.sg/articles_cargo.html (accessed March 25, 2010); and Yvonne Tan, "Cirebon Wreck," *Southeast Asia Ceramics Museum Newsletter* 3,7 (2006): 1.

²⁹ Flecker, "Intan Shipwreck," pp. 78–79.

evidenced by the fact that glass beads from the Middle East are commonly found in Indian Ocean archaeological sites from the earliest centuries of the Common Era. By the tenth century, Java artisans were making their own glass beads, initially by melting imported glass rather than making their own glass.³⁰ It is therefore appropriate that a few items of glassware were recovered from the shipwreck, though Flecker argues that these were all previously broken and were being shipped to Java as raw material for local bead manufacture.

Similar to the cargo of the Belitung wreck, the Intan cargo included quantities of Chinese ceramics, but not anywhere near the volume of this item recovered from the Belitung shipment to the Middle East. There were a small number of fine Chinese domestic ceramics—jars, pots, and bowls—but most of the cargo was made up of lesser quality ceramics for wider consumption, as had been true in the Belitung wreck. In this case, the more common ceramics were what are known as Yue ware, a coarse, domestic product of less quality than that in the Belitung shipment. These Intan ceramics fired at China's Zhejiang regional kilns were shipped in bound, multiple stacked bowl packages. Like the Belitung ceramic exports to the Middle East, the Intan ceramic cargo was intended to be exchanged for Southeast Asian commodities, including aromatic resins, spices, and woods that were available in Java's marketplaces, as discussed below.³¹ Commodities recovered from the Intan ship include twenty-four small pieces of benzoin (tree resin)—at that time an export product of Sumatra rather than Java, evidently acquired at the previous Srivijaya southeast Sumatra stopover—used in Buddhist monastic and home rituals.³² In addition, the ship held a small number of Middle Eastern ceramics with incised patterns on turquoise blue-glaze bases, and high-value goods, such as gold, ivory, and pearls, from western Indian Ocean sources.

Other notable Intan wreck remains are forty-two bones from different skeletons. This is inconsistent with salvage from other early shipwrecks, where skeletal remains are infrequently found. In part, the rarity of human remains in such wrecks is due to the fact that crews and deck passengers were likely to escape a sinking ship. In addition, skeletal bones would not normally survive in oceanic salt water, which will dissolve the calcium carbonate in the bone. The bones of the Intan wreck remained intact because the ship sank into a seabed of heavy silt, which preserved the skeletal remains in addition to other organic matter. One historian proposes that these bones belonged to slaves held below deck.³³ Notably missing are imported textiles remnants, whether silk or cotton, as these are known to have been contemporary imports from China and India, and these were portrayed in the stone carvings on the Borobudur and other ninth-century central Java temples.³⁴ Such textiles were likely to have been

³⁰ Peter Francis, Jr., *Asia's Maritime Bead Trade from ca. 300 BC to the Present* (Honolulu, HI: University of Hawai'i Press, 2002). Francis reports that, in Southeast Asia, beads were used in healing and currency, worn as ritual objects and decoration, and recognized as sources of personal power.

³¹ Flecker, "Intan Shipwreck," pp. 101–3. See Jan Wisseman Christie, "Javanese Markets and the Asian Sea Trade Boom of the Tenth to Thirteenth Centuries AD," *JESHO* 41,3 (1998): 344–81; and Wisseman Christie, "Trade and Settlement in Early Java," pp. 185–92, on the patterns of Java Chinese ceramics distribution in this era.

³² Flecker, "Intan Shipwreck," p. 96.

³³ Gordon, *When Asia Was the World*, p. 68.

³⁴ Jan Wisseman Christie, "Texts and Textiles in Medieval Java," *BEFEO* 80,1 (1993): 181–211.

among the goods carried by shipboard merchants on the Intan, but cloth would not have survived long submersion in the ocean.

III. The Cirebon/Nan-Han and the Karawang Shipwrecks

While we do not as yet have the full details of the Cirebon/Nan-Han and Karawang shipwrecks, both c. 930–990 CE wrecks discovered off the west Java coast, the preliminary oral reports by Horst H. Liebner, the archaeologist working on the wreck remains, indicate their importance.³⁵ These ships sank while sailing from Sumatra, perhaps from Srivijaya/Palembang, to the north Java coastline. The most significant cargoes recovered from them are Middle East ceramics and glassware bearing Islamic motifs. There are also inscribed *tasbehih* (Islamic “prayer beads”) with sculpted Arabic letters, and small printing plates used to duplicate Arabic letters and words. These cargo items provide the first documentation of Muslim residency in Java, and they help verify the authenticity of a Muslim tombstone, dated 1082, located in the north Java Gresik seaport, said to mark the grave of a Muslim princess, but of questionable origin; historians debate whether the monument was a local product or an import.³⁶ The shipboard volume of such Islamic items suggests that diasporic Muslim merchants, if not Javanese converts, were practicing their faith—minimally in Java’s ports-of-trade—as was true in the initial contemporary settlements established by the Muslim trading diaspora in India’s ports.³⁷

The Shipwreck Remains as Documentation of the Evolution of Javanese Material Culture and its Wider Consequences

In sum, the c. 940 CE Intan wreck remains, as sustained by the preliminary reports of the two most recently salvaged later tenth-century west Java Sea shipwrecks, demonstrate that by the tenth century Java ports-of-trade were destinations rather than stopover ports. The impressive variety of imports reflects elite, religious, and wider

³⁵ There have been several accounts published in Indonesian newspapers based on filed legal documents generated by a legal contest to determine ownership of the wreck. The potential significance of these new wrecks justifies calling attention to these reports. The analytical evidence has been outlined in a series of guest lectures by Horst H. Liebner, “Cargoes for Java: Two Tenth-Century Shipwrecks,” one presented at the National University of Singapore, September 10, 2009, as reported in a series of internet blog summaries of the presentations. Work on these shipwrecks has been delayed by litigation, as there are rival local claims to the recovered artifacts, which promise to be valuable. Preliminary newspaper reports describing the wrecks with anticipation have been followed by silence.

³⁶ M. C. Ricklefs, *A History of Modern Indonesia* (Bloomington, IN: Indiana University Press, 1981), p. 3; Elizabeth Lambourn, “Tombstones, Texts and Typologies: Seeing Sources for the Early History of Islam in Southeast Asia,” *JESHO* 51,2 (2008): 252–86. Historians debate whether the gravestone was originally erected at Gresik or placed there at a later time, as Gresik would become a major port-of-trade by the fifteenth century. Also at issue is whether the gravestone marks the presence of a single, solitary Muslim in Gresik, or whether there was a resident Muslim community in the port, and potential local converts to Islam at that time.

³⁷ Elizabeth Lambourn, “India from Aden: *Khutba* and Muslim Urban Networks in Late Thirteenth-Century India,” in *Secondary Cities and Urban Networking in the Indian Ocean Realm, c. 1400–1800*, ed. Kenneth R. Hall (Lanham, MD: Rowman and Littlefield, 2008), pp. 55–97. See also C. Guillot, Lukman Nurhakim, and Sonny Wibisono, *Banten avec l’Islam: Etudes archéologiques de Banten Girang (Java-Indonesie) 932? –1526* (Paris: l’Ecole Française d’Extrême Orient, 1994).

consumerism, with implications relative to wider societal and market hierarchies. By volume, iron and ceramics are the most conspicuous cargoes of the Intan wreck. While there are high-end ceramics in the Intan shipwreck, most of the ceramics are notably of lesser quality than those from the ninth-century Belitung wreck, which were clearly destined for western Indian Ocean and, especially, Middle East consumption. This is important, as it shows that, in comparison with the other region, tenth-century Java would seem to be still evolving as a consumer marketplace for imported commodities. Jan Wisseman Christie's previous study of the remains of imported ceramics confirms the wide distribution of these in the Java hinterland, while it also, critically, denotes the numerically significant evidence of the corresponding preferential use of local ware—in other words, the imported ceramics were a popular prestige commodity.³⁸ Whether the imported ceramics set in motion a productive local-ware “industry” is not clear, but this would certainly have been the case in reference to the imported glass beads from the Intan wreck, which were supplemented by a documented nascent tenth-century Java glass bead industry to supply wider local consumption.³⁹

The fact that imported jewelry and mirrors are pictured in the Borobudur relief suggests that these, as well as other imported consumer goods, were in such wide use that those who visited the Borobudur monument would not have found them out-of-place in the depictions of Indic literature in a Java setting. As reported above, the Borobudur relief also confirms the distribution of the small bronze Buddhist icons found on the Intan shipwreck, and the wider distribution of local metallic and terracotta replicas produced by local artisans using the imported molds. The import of Sumatra benzoin (tree resin) for use in Buddhist rituals in temples and homes is also significant, as Java ports were evidently evolving into international clearinghouses for the commercial exchange of all variety of imports for Indonesian archipelago spices.

This brings us to consideration of the high-volume trade in iron and other imported metals documented in the Intan shipwreck remains. The quantity and variety of types—e.g., iron ingots from China, tin ingots from Southeast Asian sources located to the west of Java, and melted-down, previously used bronze objects for local castings—provide evidence for broad and active trade that goes beyond the more limited trade for goods that would be consumed locally, which resulted in the variety of locally fabricated products discussed above. In fact, Java did not have metallic deposits that could supply the local need for iron and secondary metals to sustain higher levels of economic productivity foundational to Java's evolving societal and political integrations. Not only were iron tools necessary to support Java's transition into a major wet-rice producer and exporter (rice was exported, especially to eastern Indonesian islands in exchange for that region's spices), but, as documented in the shipwreck remains of iron spearheads and a high-quality silver sword (which was likely a diplomatic gift; iron imports were the basis of the subsequent local production of the iron-based *kris* as the Javanese weapon of choice), iron was necessary for military

³⁸ Wisseman Christie, “Trade and Settlement in Early Java.” During my early 1970s archaeological fieldwork in Palembang, Sumatra, ritualized visits to local households would include the honored privilege of seeing the families' Chinese porcelain heirloom.

³⁹ Francis, *Asia's Maritime Bead Trade*.

initiatives in support of political consolidations that were essential to Java's new international commercial stature.⁴⁰

Java smiths developed a tradition of working with metals that were imported in semi-finished condition. Ninth-century gift lists in inscriptions that record land transfers reference not only several types of iron tools that are included in material reassignments to sustain temples activities, but also iron bars, presented either in bundles (*wsi ikat*) or singly (*wsi ura*), consistent with the tons of iron bars recovered from the shipwrecks in the Java sea and bundles of iron bars found at Java archaeological sites. Similar bundles of bronze bars have been found widely distributed throughout Southeast Asia, as in this form metals were carried by mobile traders who supplied local smiths, who readily supplied local needs for iron tools.⁴¹

Evidence of the use of minted coinage in Java begins in the eighth century. At that time, imported gold and silver, whether in coinage or in bars, was primarily used in large-scale transactions for land purchases, temple endowments, or ceremonial redistributions by wealthy donors and members of the political elite; these imported metals assumed only a secondary role in commercial transactions.⁴² There is no evidence that precious metals were used in everyday village transactions, which were based in commodities rather than commodity exchanges, and were carried out by barter rather than based on standardized values.⁴³

In their reflections on recent archaeological recoveries in Java and its neighbors along the Straits of Melaka, scholars reason that members of the court elite received precious imports via diplomatic exchanges, or used higher-value gold and silver coinage or bullion in their "administered" transactions with commercial outsiders. Tribute and fines were annually collected from villages in kind rather than in cash, and local officials were paid in kind rather than in cash—military commanders were, however, paid in precious metal bars, as the bars were more mobile. Thus, the early courts had little initial need for coinage—the court did not need to create coinage simply to re-collect it. Nor did Java's kings use coins to promote their own image. Java-minted coins did not incorporate a king's portrait or name, in contrast to contemporaneous currency in South Asia that prominently displayed the images of kings as a statement of legitimacy. In sum, Java's courts did not impose coinage use from the top down. Coins came into use as a consequence of the profusion of new local marketplaces consequent to the importation of a variety of consumer goods, related

⁴⁰ Jan Wisseman Christie provides the translation of the informative Jurungan 876 sima charter inscription from central Java, which itemizes the cloth (800 pieces), gold (1.75 kilograms), silver (.25 kilogram), and iron transfers in compensation for the delegated land income transfers to the recipient local temple by the regional ruler, the Rakrayan of Sirikan. Notable among these were numbers of iron tools (for agriculture?) and iron *kris* military weapons, and a generalized distribution of iron bars (100 bundles). See Jan Wisseman Christie, "Money and its Uses in the Javanese States of the Ninth to Fifteenth Centuries A.D.," *JESHO*, 39, 3 (1996): 275–78. The Old Javanese language text is in Machi Suhadi and M. M. Soekarto, *Laporan penelitian Epigrafi Jawa Tengah* (Jakarta: Departemen Pendidikan dan Kebudayaan, 1986), pp. 72–77.

⁴¹ Wisseman Christie, "Javanese Markets and the Asian Sea Trade Boom," pp. 227–29.

⁴² Wisseman Christie, "Money and its Uses," pp. 243–86. See also Wisseman Christie, "Trade and Value in Pre-Majapahit Java," and "Money and its Uses," p. 279, in which she provides an illustration in her translation of the "sima grant of Hring (937).

⁴³ Antoinette M. Barrett Jones, *Early Tenth Century Java from the Inscriptions: A Study of Economic, Social, and Administrative Conditions in the First Quarter of the Century* (Dordrecht: Foris Publications, 1984), pp. 59–90.

processes set in motion by the availability of imports in volume, including Chinese ceramics, and the eventual need for coinage in marketplace transactions that involved the acquisition of items that were not locally produced, a different sort of transaction from typical local trade exchanges, which necessitated a different type of exchange.

Java inscriptions from the eighth until the thirteenth century consistently include monetary terms such as *atak* (?), *pirak* (a general term for silver), and *mas* (a general term for gold). References to both silver and gold coins include monetary units such as the *kupang* (0.60 grams), the *masa* (equal to 4 *kupang*, or 2.40 grams), the *suvarna* (equal to 16 *masa* or 64 *kupang*), the *karsapana* (equal to one *suvarna*), and the *ka/kati* (equal to 16 *suvarna*).⁴⁴ These equitable value standards document that coinage value was based on a standardized weight system supportive of barter exchange, and not on marketplace exchanges that relied on price indexes in which metal coinage had an intrinsic value, as was the case in South Asia and China, Java's contemporary trade partners.⁴⁵ The shipwreck cargoes are consistent with this conclusion, as the vessels carried limited coinage, stocking up instead on volumes of precious metal bars, some of which had inscribed precertified value, as appropriate to the larger-volume transfers that would take place in a port-of-trade rather than the small-scale exchanges of a local market. Epigraphic references thus distinguished between *banyaga* (port-based traders) who dealt in larger volume exchanges in ports-of-trade, in contrast to smaller-scale merchants—peddlers and “delta traders,” who did not (see below). In the eleventh century, smaller coinage units were introduced and adopted as a result of the region's greater involvement in the Indian Ocean trade and subsequent upstream increases in marketplace transactions that involved consumer products that were not locally produced, which called for the use of small-denomination coinage.⁴⁶

The distribution of recovered coinage hoards indicates preferential differences between the two core population centers in central and east Java: central Java's Kedu plain had an affinity for silver, while in east and west Java, gold predominated, arguably because of this region's contacts with the Srivijaya realm, which was the major regional source of gold.⁴⁷ Irregular, stamped silver ingots and silver sandalwood flower coins are concentrated in the Kedu plain of central Java, and gold ingots and coinage predominate in east Java.⁴⁸

The gold sandalwood flower currency found in the Intan shipwreck, which was issued roughly from 800 to 1300 CE, came from production sites on the coast of Sumatra or the peninsular Thailand area of Nakhon Sri Tammarat/Suratthani that were known to be networked with the southeastern Sumatra-based Srivijayan realm.

⁴⁴ Robert S. Wicks, “Monetary Developments in Java between the Ninth and Sixteenth Centuries: A Numismatic Perspective,” *Indonesia* 42 (October 1986): 42–77.

⁴⁵ Kenneth R. Hall, “Coinage, Trade, and Economy in South India and its Bay of Bengal Neighbors,” *Indian Economic and Social History Review* 36,4 (1999): 431–59.

⁴⁶ Wicks, “Monetary Developments,” p. 47.

⁴⁷ Wicks, *Money, Markets, and Trade*, pp. 219–99.

⁴⁸ This would potentially indicate that the port destination of the Intan vessel was in central rather than in east Java. This route contrasts with that of the cited later tenth-century Cirebon wreck, which had more gold artifacts, suggesting it had an east Java destination. See also Michael Flecker, “Maritime Archaeology in Southeast Asia,” in *Southeast Asian Ceramics: New Light on Old Pottery*, ed. John Miksic (Singapore: Southeast Asian Ceramics Society, 2009), p. 38.

Slightly smaller and less finely engraved versions of the gold sandalwood flower currency were also being issued in Java by the ninth century.⁴⁹ Javanese silver coinage duplicated the gold currency, although the obverse of the silver four-petal Javanese sandalwood flower coin contains the letter *ma* (*masa*), in contrast to the reverse of Java's early gold coins, which is blank.

As I have argued in comparative detail elsewhere, an early Southeast Asian state too dependent on income derived exclusively from its wet-rice production in the plains was limited in its development potential.⁵⁰ In the case of Java, the elites of pre-tenth-century central Java's rice-plain-based state shared land control with rival landed elites and institutions. Since income derived from the land was the major source of a rice-plain-based elite's ability to exercise political sovereignty, providing the would-be rulers with material as well as "symbolic" capital with which to construct alliance networks, a successful sovereign had to have either immense personal prowess or greater economic resources at his personal disposal than did potential sovereigns among other elite groups within the realm. Trade provided an alternative means to concentrate wealth at the center. By becoming more actively involved in external commercial affairs, those claiming sovereignty in a rice-plain state could secure their and their court's authority relative to the authority of competing regionally based elites and institutions. Economic leadership in the commercial sector provided a new source of income for wet-rice-plain monarchs and, in turn, enhanced their political accomplishments. Development of an international trade sector also promoted the further prosperity of the wet-rice sector, providing new markets for local rice production and facilitating the expansion of wet-rice agriculture, which then stimulated the development of a more integrated polity.

From the tenth century to the early sixteenth century, Javanese kings based in east Java courts played a key role in facilitating this trade. At issue was the legitimization of the incursions of *banyaga* into the Javanese hinterland, as this is a repeated topic in inscriptions dating from the tenth century that (as explained below) elaborate royal instructions on the conduct of trade, quality control, and the use of standards and approved weights and measures at warehouses and commercial rice granaries. In the tenth century, according to the Dhimanasrama inscription discussed below, a Javanese ruler exempted twenty vessels and the shippers of goods of twelve different classes from paying royal taxes; the record shows that a total of 135 vessels were operating from this north coast port, reflecting a sizeable trade. The Kaladi tenth-century inscription records a royal grant to encourage settlement along the river and roads leading to an east Java port, a measure intended to discourage banditry, a threat to merchants and coastal residents.

In another case, a ruler offered his patronage to develop a port in east Java, as evidenced by a subsequent early eleventh-century royal project that dammed the Brantas River to "reduce the threat of flooding to benefit shiphandlers, pilots, and gatherers of goods ..., including ships' captains, and merchants [*banyaga*] originating

⁴⁹ Wicks, "Monetary Developments," p. 51.

⁵⁰ Kenneth R. Hall, *Maritime Trade and Societal Development in Early Southeast Asia* (Landam, MD: Rowman and Littlefield, 2010).

from other islands and countries.”⁵¹ Port-based merchants were granted royal charters, and in the era of east Javanese hegemony, port-based merchants were even employed as royal tax collectors in areas near their port-of-residence, and might rise to positions of political authority.⁵² This was a further means of facilitating the movement of goods from the hinterland, as it was also an attempt by the Javanese monarch to penetrate local political autonomy in the peripheries of his realm.⁵³

It is important to remember that the centralization of trade constituted not only a convenience for all participants, but also served as a mechanism for minimizing the penetration of the hinterland by outsiders. Control of the activities of higher order merchants strengthened the social cohesion of the local village cluster communities of exchange by protecting the interests of indigenous merchants and producers. For a river-plain state desiring to participate in international commercial networks, the aid of foreign merchants and seafarers was a necessary source of extended economic contacts. But there was always the potential for a port community to initiate a successful challenge to the state’s leadership. The port could do this by establishing its autonomy from royal control or by undermining royal authority by supporting one royal faction against another. Further, successful trade made the coastline vulnerable to naval attack. Thus, foreign merchants and seamen who were integral to a ruler’s ambitions could also destroy his state.⁵⁴

In response to these concerns, as discussed below, merchants and seafarers of foreign origin were largely confined to Java’s coastal ports, where the potential dangers posed by their commercial activities could be isolated. Local marketing networks and merchants provided the intermediary links to supply the sojourners’ needs and demands for goods, as well as to act as the agents for the transfer of the types of goods found in the shipwrecks to Java’s diverse consumers.

⁵¹ Kamalagayan inscription (AD 1037), as translated in Jan Wisseman, “Markets and Trade in Pre-Majapahit Java,” in *Economic Exchange and Social Interaction in Southeast Asia: Perspectives from Pre-history, History, and Ethnography*, ed. Karl L. Hutterer (Ann Arbor, MI: Center for South and Southeast Asian Studies, 1977), p. 206.

⁵² Wisseman Christie, “Javanese Markets and the Asian Sea Trade Boom,” pp. 363ff; and Wisseman Christie, “Trade and Settlement in Early Java,” pp. 190–95. See specifically Wisseman Christie’s translations of the eleventh-century Mananjung Charter’s discussion of port-based trade and traders (pp. 373–74). See also the Sima Anglayang inscription, which is a Majapahit-era copy and reaffirmation of a *sima* charter dated 1046 (pp. 374–78). The latter specifically elaborates on a monarch’s administration of foreign trade, in stipulations and restrictions relative to what port-based merchants can and cannot do.

⁵³ Pierre-Yves Manguin, “Merchant and the King: Political Myths of Southeast Asian Coastal Politics,” *Indonesia* 52 (October 1991): 41–54.

⁵⁴ The dualistic potentials of the port as both a threat and a rich source of benefits are acknowledged in the fourteenth-century Old Javanese *Nagarakertagama* epic poem, which recounts the role of a Mongol naval expedition in the late thirteenth-century transition from the previous line of kings. The poem also acknowledges the source of the wealth that is represented in the lavish tribute-mission gifts the Majapahit monarchy received from the many countries whose merchants were trading in east Java’s ports. Stuart O. Robson, trans., *Desawarnana: (Nagarakrtagama)* (Leiden: Verhandelingen Van Het Koninklijk Instituut Voor Taal-, Land- En Volkenkunde, 1995).

Maritime Trade Relationships Documented in Contemporary Java Inscriptions

The initial positive interactions between Java's native populations and seagoing travelers are portrayed at the ninth-century Borobudur stupa in a notable upper gallery scene in which populations in a Java setting welcome a Buddhist saint on Java's shores.



Figure 1. Panel at Borobudur depicting the Buddhist *Adavana* story of the Buddhist saint Hinu landing at Hiruku (photo by author)

This characterization is reinforced in the surviving ninth- to early eleventh-century *sima* (clerical domains) grant charters that document Java's transitional international trade relationships. Local Sanskrit and Old Javanese Kawi inscriptions confirm the existence of local marketplaces for the commodities carried in the Java-destined shipwrecks, but, as noted, also raise issues related to the eventual local need to regulate the international trade and its traders. Previous studies of the initial presence of foreign trade communities in these Javanese ports-of-trade assert that they were beneficial in terms of local consumption; that the trade itself provided a source of royal revenue; and that rulers benefited by employing merchants as alien tax collectors.⁵⁵ The cited

⁵⁵ Jan Wisseman Christie, "Javanese Markets and the Asian Sea Trade Boom," pp. 344–81; and Jan Wisseman Christie, "Asian Sea Trade between the Tenth and the Thirteenth Centuries and Its Impact on the States of Java and Bali," in *Archaeology of Seafaring, The Indian Ocean in the Ancient Period*, ed. Himanshu Prabha Ray (Delhi: Pragati Publications, 1999), pp. 221–70; and Wisseman Christie, "The Medieval Tamil-Language Inscriptions in Southeast Asia and China," *Journal of Southeast Asian Studies* 29, 2 (1998). The latter article highlights the role of foreign merchants as potential "alien" tax collectors who served on behalf of Java's monarchs, and explains the merchants' importance as a source of profitable exchange. The fifteenth-century Kawi Javanese-language *Pararaton* "book of kings" symbolically represents the potential importance of foreigners in its accounting of the rise of the Singhasari kingdom (1222–92 CE) consequent to a meeting between the future king, Ken Arok (Angrok), with Lohgawe, a Brahmin who had arrived from India on a divine mission to counsel the king-to-be. Kenneth R. Hall, "The Early Historical Texts, Breaking into Them and Breaking out of Them: A Case Study of the Old Javanese *Pararaton*," *Texts and Contexts in Southeast Asia Part II* (Yangon, Myanmar: Universities Historical Research Centre, 2003), pp. 1–18. See also J. J. Ras, "Sacral Kingship in Java," in *Fruits of Inspiration: Studies in Honour of Prof. J. G. de Casparis*, ed. Marijke J. Klokke and Karel R. van Kooij (Groningen: Egbert Forsten, 2001), pp. 373–88.

shipwreck artifacts allow us to expand our questions and theories about these ports-of-trade. We can now ask about the role and importance of imported metals, notably iron, among other trade goods, and the wider societal consequences of the trade in metals, especially for the rulers. The importation of metals for local artisans would have been routed through the delta areas. Hence it made sense to set up the manufacturing ("production center") in the delta area itself, initially. In this way, with the trade moving through them, east Java deltas developed as both agricultural and industrial areas under royal authority, rather than being subject to a variety of well-entrenched competitive elites situated upstream. Command of the deltas also allowed the monarch to limit his competitors' access to critical metal weapons in this transitional era of endemic warfare among regional authorities (*rakrayan*, chiefs) that was foundational to a more centralized Javanese monarchy.

Control over iron imports; the manufacturing of iron into weapons, luxury goods, agricultural tools, and ritual objects; and the subsequent distribution of these items were new sources of wealth and were potentially empowering. The state's interests in controlling iron is evident in the early inscriptions discussed below, which document the newly established downstream and port communities where Java's monarchs asserted their control over those engaged in trade, and especially those trained to work with iron and other metals. These inscriptions are notable in their documentation of the implementation of regulations governing iron, metalworkers, and other specified craftsmen associated with the import and export trade, who were subjected to intense, monopolistic royal supervision and control. They were acknowledged as a socially distinct group, designated as blacksmiths, goldsmiths, and so forth, subject to royal mandates regarding their residency, storage (warehousing), and the disbursement of their metallic creations, which were of great material and symbolic value. In their attempts to guarantee the steady flow of newly imported and manufactured metallic products, tenth-century kings in effect denied metal craftsmen an alternative livelihood. But in return, as elaborated in one inscription, the iron craftsmen were rewarded with the right of religious affiliation, as the chartered patrons of their own Indic temple.

This was highly appropriate, since in subsequent Javanese tradition metalsmiths were said to hold godlike powers associated with their mastery of metals and fire, as explicitly presented in the iconography of the fifteenth-century Candi Sukuh mountain temple in north-central Java (near modern Solo).⁵⁶ In the Candi Sukuh relief, two men forge an empowered *kris* from the fires of Hell, which thematically connects the practice of metallurgy to human fate. The metalsmith's transformative art was a deliberate metaphor for spiritual transfiguration and the release of the soul after death. In this popular *wayang*-style relief, the Hindu warrior divine Bima was the smith who made the magical *kris*, the most prized personal weapon, and here the symbol of eternity, using his fists as hammers and his thigh as an anvil and drawing fire from the palms of his hands.

⁵⁶ Stanley J. O'Connor, "Metallurgy and Immortality at Candi Sukuh," *Indonesia* 39 (April 1985): 67.



Figure 2. Panel from Candi Sukuh showing Bima as ironsmith (photo by author)

The Kaladi *sima* charter inscription dated 909 CE is the earliest in a series of royal trade inscriptions dating to the reign of King Balitung (898–910 CE), who had relocated his court from central to east Java. Collectively, Balitung's inscriptions provide the first details of Java's interactions with foreign merchants operating in the Brantas delta region of east Java.⁵⁷ The Kaladi inscription follows the model of earlier royal *sima* inscriptions found in central Java, in which previous monarchs designated certain lands as tax-free and used income from such land to fund local temples. *Sima* ultimately proclaimed the ritual credit and supreme political authority of the monarch, to support his political interests over those of pre-existing local and regional elites.⁵⁸

The Kaladi *sima* charter asserts that it was issued to encourage settlement and cultivation of the borderlands in the delta region, and thereby reduce dangers of the downriver waterway that might threaten the combined political, religious, and economic interests of the king. The inscription is specific in its distinction between

⁵⁷ Text and translation in Barrett Jones, *Early Tenth Century Java from the Inscriptions*, pp. 178–94. See also Wisseman Christie, "Javanese Markets and the Asian Sea Trade Boom," pp. 360–71.

⁵⁸ See the collection of the earlier Sanskrit-language inscriptions from central Java in H. B. Sarkar, *Corpus of the Inscriptions of Java (up to 928 AD)*. In a notable 850 CE reference to a merchant temple in Tulang Air near Temanggung, on the road south from the coast to the central Java interior (p. xvi), merchants are one among the several locally resident communities cited as having relinquished their interests in lands designated to supplement a new *sima* temple endowment that would insure the temple's future support. On the politics of the variety of these *sima* charter grants, see Barrett-Jones, *Early Tenth Century Java from the Inscriptions*, pp. 59–90.

banyaga and a variety of lesser delta traders (*hiliran*). In an undated inscription from Balitung's reign, the *banyaga* are referenced in their association with a collective *banigrama* group operating in another Brantas River delta port that was the personal appanage held by the king. The inscription demonstrates Balitung's direct interest in commerce, which was a source of his and his realm's wealth and goods, and also evidences his need to impose control over the actions of these alien commercial specialists. Here the *banigrama* merchants were collectively characterized as those "who encircle the sea, who [sail] the length of the sea," who were freed of specific royal taxes and placed under royal protection.⁵⁹

The Kaladi inscription begins by citing the problem of uncultivated lands that are prone to a variety of acts of banditry (*mariwung*), acts later characterized as typical of individuals whose behavior is unacceptable (those who run *amuk/angluputaknamuk*), which thereby:

... endangered seagoing traders [*banyaga*] and other traders from the downstream [*hiliran*] by day and night. And there was an agreement for the use of the uncultivated ground for it to become a productive wet-riceland [*sawah*], to stop being a fearsome place and to stop being under the administration of Bawang [the then regional unit of government], to be a free place, not to be interfered with by ... [a series of political authorities] ... inferior persons of all kinds ... [including] foreigners [*paranakan*], goldsmiths, ... overseers of traders [*tuhadagan*], ... sellers of drugs and spices (*rumban*), ... buyers of lime, buyers of axes, buyers of wood and coal, ... cart drivers, ... All these may not enter the freehold [*sima*] of Gayam and Pyapya ... [and thereby threaten local productivity].⁶⁰

As in other *sima* grant initiatives of that era, there follows a list of those whose remitted interests in the delegated property were ritually acknowledged by material and spiritual gifts, in this case represented in the material award of symbolic clothing of honor: "men's colored clothing, women's cloth [a *kain* of cloth wrap for the male's wife], and one *suwarna* and four *masa* of gold."⁶¹ The transaction was sealed by the agreement of the regional authority, the Rakrayan of Bawang, in favor of the king's interests, and transferred management authority over the *sima* lands to the religious representatives of the temple (Sang Mula Dharmma), with the approval of the local landholding elders (*rama*), as well as others from neighboring villages, as specifically recorded to have been represented at the *sima* invocation ceremony by their village *rama*.

Henceforth, the "head of traders" (*tuha dagang*) and "inspector of ferries" were among those barred from having power in the *sima*, and further restrictions were noted against "the *wargga kilalan* from Kalingga [the northern Bay of Bengal region at the southwest mouth of the Ganges River], Aryya [*arja*, Indian merchants], the Singhalese

⁵⁹ Wisseman Christie, "Javanese Markets," p. 363; the Kawi text is in F. H. van Naerssen, Th. G. Th. Pigeaud, and P. Voorhoeve, *Catalogue of Indonesian Manuscripts*, part 2 (Copenhagen: Royal Library, 1977), p. 63.

⁶⁰ Translation of the Kaladi inscription, numbered E 71 in the Jakarta Museum, estampage no. 2840 in the Dinas Purbakala, plate 1b 3–plate 2, adapted from the text and translation in Barrett-Jones, *Early Tenth Century Java from the Inscriptions*, pp. 180–83.

⁶¹ Plate 4a, line 2ff, in *ibid.*, pp. 183–85.

[*Singhala*, merchants from Sri Lanka], the Dravidians [*Drawida*, south Indian merchants], and four specified types of 'accursed' foreign merchants [*banyaga*], from Pandikir [the Pandya lands of southeast India], Chams [*campa*, from south-central Vietnam], traders from southern Burma [*ramman/rmen*], and Cambodians [*kismmira/kmir*]."⁶² Others forbidden to occupy these *sima* properties were goldsmiths, coppersmiths, blacksmiths, workers in brass, and "whosoever are foreigners by origin."⁶³ Appropriately, the inscription concludes with a curse that threatens offenders with divine retribution: "death by drowning, death from snake bite, death from being eaten by a crocodile, death from being eaten by a shark, death from a sea monster," all threats activated by the invocation of the temple priests.⁶⁴ At the ritual's conclusion, the officiating priests themselves received symbolic rewards of ritual clothing and payments in gold, in return for their sworn commitment to honor the king-benefactor by their faithful administration of the endowed *sima* grant lands in support of the temple's ritual activities.⁶⁵

The Charter of Sangguran, dated 928 CE (in the reign of Balitung's successor, Sindok), provides further documentation of foreign merchant communities in its record of the creation of a *sima* endowment free of royal taxes that consisted of the village of Sangguran, which was tasked to "serve [i.e., to finance] Siva, the god of the temple of the smiths at Mananjung," another downriver port-of-trade in the Brantas river delta. Not only was the Sangguran village said to be agriculturally fertile, but it was also reported to be a production center for the "making of black paints, purple-red paints, lacquer, red paints, roofs, spinning, catching fish, making sugar, pots, lime, bed-covers, pillows, sheaths, linen umbrellas of different colors, crafting of shuttles for the spinning wheel, all sorts of wicker works."⁶⁶ The royal dues normally payable on these diverse commercial activities were henceforth to be deferred from the royal tax collectors to the deity, the administrator of the freehold, and to the "collector of the royal taxes" on the freehold's behalf. In this case, this downstream trading community retained a significant degree of autonomy, in contrast to the situation of the upstream community detailed in the Kaladi inscription, with specific focus on the importance of the foundational local iron industry, as ironmongers were only accountable to their "chiefs of smiths" (*kujuru gusalyan*).⁶⁷ A follow-up undated Mananjung inscription provides an overview of the by-then diversified early eleventh-century marketplace:

⁶² Plate 7a, line 5-7b, line 2, in *ibid.*, pp. 186-87.

⁶³ Plate 7b, lines 3-5, in *ibid.*, pp. 186-89.

⁶⁴ Plate 8a, lines 3-6, in *ibid.*, pp. 188-89.

⁶⁵ Plate 8b, line 6-10a, line 3, in *ibid.*, pp. 189-93. Consistent with the commodities carried by the shipwrecks, the items that are detailed in the epigraphic accounts of the inauguration of a *sima* were clothing, money, bundles of iron (and strings of iron money); iron tools for agriculture, for processing foods, cutting stone, and ceremonial weapons; bronze and copper items such as cooking pans, dishes, utensils, and lamps, and perfumes and incense. *Ibid.*, p. 37.

⁶⁶ Sarkar, *Corpus of Inscriptions of Java (up to 928 AD)*, Inscription XCVI, lines 21-22, pp. 229, 236-37.

⁶⁷ The inscription records that the *sima* command came from King Sindok and was directed to his prominent regional lord, the *rakrayan mapatih* of Hino. This vital port-of-trade was of special interest to both. See Boechari, "Rakryan Mahamantri I Hino: A Study of the Highest Court Dignitary of Ancient Java up to the Thirteenth Century AD," *Journal of the Historical Society, University of Singapore* 4 (1967-68): 7-20. The Charter of Sangguran, dated 928 CE, originally came from the lower Brantas river basin, near Surabaya, but now stands at the Minto House in Scotland. The text and translation of the initial Sanskrit portion of the inscription is published in Sarkar, *Corpus of Inscriptions of Java (up to 928 AD)*, Inscription

... all strive to sell all manner of desirable goods under the regulation of the great independent traders [*gonggong swakarmma dagang*]. [All members of the community] must deliver up iron to His Majesty, and also to the Holy Kuwera [the focal temple deity, the Hindu god of wealth]. They must as well establish there their warehouse organizations [?] [*para panengggek*] at Rempah and Mananjung, so that they will not claim as their own the goods of other traders, except as *andi* [penalty?] or in the salvage of a sunken vessel—but, in this case, only that which is rightfully theirs. Also, they shall have as their foundation [of activity] the already established *banigrama parawulu* [the foreign merchant association] in Kamuruhan, especially those groups in Mananjung. They must all be regulated by the [heads of their] warehouse organizations, whence *samanglas* [?] must all be distributed, particularly by their warehouse associations at Rempah to the *wulu* [i.e., the *banigrama parawulu*]. All of their assistants in the communities in Kamuruhan must be mindful that they are obligated at all times to protect [the quality of their produce]. They must not allow black pepper to become damp, nor beans/gram, fennel, safflower dye, medicinal *jamuju*, coriander, *wungkudu* dye, and above all, rice.⁶⁸

By the early eleventh century, Java's ports had become the intermediaries in the trade of Java's rice in exchange for the eastern Indonesian archipelago's spices, sandalwood, and other forest products, which were exported overseas with Java's black pepper, fennel, coriander, *jamuju* seeds (a spice and valued medicinal compound), safflower, and *wungkudu* (red) dyes, all of which were in demand in Song-era China. In response to the increased volume of trade, as the eleventh-century inscription reports, a new universal standard of weights and measures was implemented, in part, it would seem, to protect the interests of hinterland consumers by standardizing regional market trade. The last line of the inscription segment cited below substantiates the intermediary role of the port marketplace, as it dictates that port-based wholesalers had to transact business above a certain volume, with the implication that the small-scale traders who received their warehoused commodities in bulk could then subdivide these into smaller units as appropriate, given their sales, to deal in the lesser upstream marketplaces:

All former measures used by them will now be forbidden. In the case of black pepper, one *kulak* volume measure must henceforth weigh one *kati* [about 760 grams]. One *kulak* of black pepper will always be measured in this manner. As for fennel, one *kulak* must also weigh one *kati*. As for coriander, *jamuju*, *wungkudu* dye, beans/gram, and salt cakes—for each of these, as formerly, one *kulak*

XCVI, pp. 227–48. By the late tenth century, Java's early coastal metalworks were exporting their iron goods to Song-era China (see Wisseman Christie, "Asian Sea Trade between the Tenth and the Thirteenth Centuries," pp. 227–29). See also Anthony Reid, *Southeast Asia in the Age of Commerce*, vol. I (New Haven, CT: Yale University Press, 1988), pp. 96–100, 106–19, for a discussion of metals production in the post-1500 era.

⁶⁸ The Kawi text is taken from a charter inscribed on bronze plates, of which only a partial set has been found, and is published in W. F. Stutterheim, "Transcriptie van een Defecte Ooorkonde op Bronzen Platen uit het Malangsche," *Oudheidkundig Verslag* 67 (1913): 172–215. Like the 928 CE inscription, it was collected from the Malang area, but had a lower Brantas river origin. The adapted English translation is provided by Wisseman Christie, "Javanese Markets and the Asian Sea Trade Boom," pp. 373–74, who situates the text in the context of the wider Java and Indonesian archipelago marketplace (pp. 352ff).

equivalent to one *sakat* will be used ... [as] also for garlic ... [The port-based merchants] must attend to the setting of the prices of all these, but they may not transport [by road] [i.e., sell in upstream Javanese markets] the *kulak-kati* measures of this produce [tax free]. Thus those at the rice granary must be regulated by their warehouse organization. They are not to use *kulak* measures of less than one *kati* in weight, nor may they accept *kulak* measures of less than one *kati* in weight.⁶⁹

Another useful late tenth- or early eleventh-century epigraphic text from the Brantas river delta port of Sikunit records a *sima* grant for the benefit of a Buddhist monastery at nearby Dhimanasrama.⁷⁰ In this case, the text reports that the king intervened to limit the number of members of the local trade community whose royal taxes were remitted to the monastery. In addition to providing an overview of the diversity of the local trade community, the inscription makes a notable accounting of the types of merchant vessels based in the local port, as well as distinguishing between the port-based commercial specialists and local market itinerant peddlers, who connected the port to the upstream:⁷¹

... of all those engaging in commerce, who reside in the holy *sima*, the number who are not to be subject to royal tax collectors are as follows: to be limited to three masters per trade are ... goldsmiths to 3 anvils, coppersmiths to 3 anvils; blacksmiths to 3 pairs of piston bellows, net makers to 3 masters, carpenters to 3 masters, cart drivers to 3 span; transporters with pack animals to 3 animals; professional cloth weavers to 3 looms, decorative *kris* sheath makers to 3 masters, ... those [boats] equipped with paddles or poles, there may be 6, along with 5 with decks; 5 *hanawa* praus [a specific boat type] with decks; 5 *panggaran* praus, 5 *pawalijan* traders' praus; [and] *panggayan* praus, which may also trade [free from royal taxes].

Also, if those *bhatara* traders—buyers of goods, trading in all districts—should be reduced by being struck by misfortune, they are not to be subject to the royal tax collectors. As for peddlers carrying their goods by shoulder pole, such as dealers in clothing, jewelry, decorative metal cast-work, metal cauldrons, betel ... carriers of cotton, *wungkudu* dye, skeins of silk thread, copper, bronze, tin, salt, salt-fish, sugar, cotton yarn, betel nut, safflower dye—all sorts of peddlers who carry

⁶⁹ Ibid., p. 374.

⁷⁰ The text was collectively published in J. L. A. Brandes, *Oud-Javaansche Oorkonden*, ed. N. J. Krom (The Hague: Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen 60, 1913); P. V. Stein Callenfels, "Stukken Betrekking Hebbend op Oud Javaansche Opschriften in de Bibliotheque Nationale to Paris," *Oudheidkundig Verslag* (1924): 23–27; and F. H. van Naerssen, "Inscripties van het Rijksmuseum voor Volkenkunde te Leiden," *BKI* 97 (1937): 507–8. This is an adapted translation of plate 8 based on Wisseman Christie, "Javanese Markets and the Asian Sea Trade Boom," p. 372.

⁷¹ See the seminal address to *hulu/hilir* (upstream/ downstream) exchange in Bennet Bronson, "Exchange at the Upstream and Downstream Ends: Notes towards a Functional Model of the Coastal State in Southeast Asia," in *Economic Exchange and Social Interaction in Southeast Asia*, ed. Hutterer (Ann Arbor, MI: Center for South and Southeast Asian Studies, 1977), pp. 39–52. See also its application in Jane Drakard, *A Malay Frontier: Unity and Duality in a Sumatran Kingdom* (Ithaca, NY: Cornell Southeast Asia Program Publications, 1990).

goods by shoulder pole⁷²—they shall be allowed 5 *bantal* weight of goods per person without being subject to the royal tax collectors.⁷³

Commercial Networking in Tenth- and Early Eleventh-Century Java

The shipwreck cargoes may be seen as consequent to collaborative agreements among multiple networked societies—those represented by the maritime diaspora populating the ships and seaports, as well as those local and global societies whose members were the intended recipients of their cargoes. The cited inscriptions are specific to the contemporary societal need to reconsider the relationships between Javanese and commercial “outsiders” in the increasingly more complex Java marketing system. These *sima* charters commonly define the appropriate behavior and use of space by traders and artisans engaged in various commercial activities. The evidence of regional networking in the ninth- to early eleventh-century Java coastline cited in this study suggests that agents in the maritime diaspora were responsive to local societies, and negotiated relationships with their neighboring communities, as these early commercial interactions were the source of subsequently stable pluralistic communities that contributed to the Indian Ocean trade boom that would follow.

The cited epigraphic data demonstrates that networks based in maritime diaspora need not be exclusively commercial. Though the networks examined were at their base commercial, and this clearly was their chief purpose, the multifaceted interests of the networked participants can be meaningfully understood in the context of the intersections of different types of community interests.⁷⁴ In the documented coastal ports, there were overlapping commercial, societal, religious, and political affiliations that were vital to the coexistence of the groups involved and that were necessary for the support of common trading interests.

Collectively, the three inscriptions considered here allow us to reconstruct networked relationships prominent in the Brantas River basin during the time of the Java monarch Balitung and his tenth- and early eleventh-century successors. During this era, the *banyaga* transitioned from independent traders transacting their business in isolated ports that lay adjacent to Java’s hinterlands, into corporate organizations

⁷² A *pikul* is a pole stick resting on and extending over the peddler’s shoulders, as a yoke, usually with two containers, one suspended from each end of the stick, containing foodstuffs (rice, sugar, oil), materials for dyeing (safflower, black dye), metal objects, or clothing/cloth.

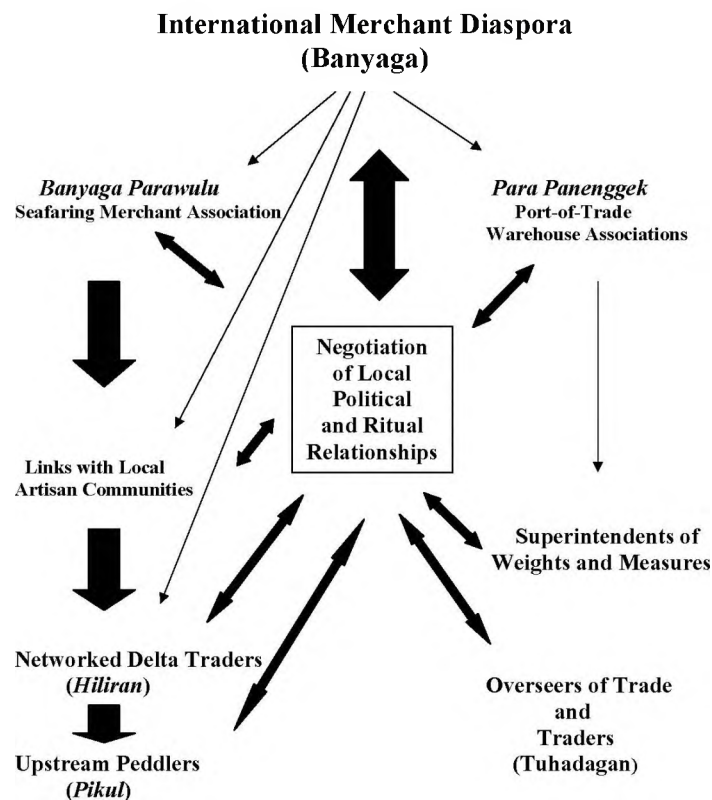
⁷³ Wisseman Christie, “Javanese Markets and the Asian Sea Trade Boom,” p. 373. Wisseman Christie makes the important point that, while in the earliest *sima* charter inscriptions financial privileges (tax remissions) are prominent, by the mid-eleventh century these financial rewards were replaced by status privileges (*wnang*), which royalty had the prerogatives to grant. These included the right to wear certain restricted patterns of cloth, the right to use certain types of cloth in colors appropriate to ritual contexts, the right to eat certain types of food, and a variety of privileges of display, such as the right of parading into a community with one’s retainers. Wisseman Christie, “Asian Sea Trade between the Tenth and the Thirteenth Centuries,” pp. 225–26.

⁷⁴ Stephen Morillo, “Autonomy and Subordination: The Cultural Dynamics of Small Cities,” in *Secondary Cities and Urban Networking*, pp. 17–38, provides a graphic representation of the multi-dimensional urban networking discussed in this study; see also Kenneth R. Hall, “Ports-of-Trade, Maritime Diasporas, and Networks of Trade and Cultural Integration in the Bay of Bengal Region of the Indian Ocean, c. 1000–1500,” in *Empires and Emporia: The Orient in World-Historical Space and Time*, ed. Jos Gommans (Leiden: E. J. Brill, 2010), pp. 109–45.

that were under royal charter to assume accountability for the effective management of their social space, as well as sharing responsibility, initially, over borderlands that lay between their port-of-trade and the upstream hinterland. Later, they would take on other types of accountability as the basis for their upstream interactions, as when they accepted responsibility to supervise the actions of port-based artisans and networked *hiliran*. Initially, the restricted commercial activities of international traders took place in their ports-of-trade, and these traders relied on the cart drivers and *pikul* peddlers who connected their port to upstream markets. Eventually, the *banyaga*, based in the ports, were assigned the task of standardizing regional weights and measures to guarantee the quality of their merchandise and the equity of their business practices, and thus became directly involved in upstream trade. The interconnected settlements were foundational to equitable upstream–downstream trade and port-based exchanges that would enhance the port's appeal and productivity to the mutual benefit of the merchants, the king, and his upstream subjects. This resulting dialogue-empowered and networked hierarchy is represented in figure 3:

Figure 3

Dialogue Empowered Hierarchy



As was appropriate to the local tradition of that time, demonstrated in the widespread *sima* charters of that era, the contracted accountabilities documented in the cited inscriptions were consecrated in religious rituals that endowed subsequent funds to support a local Hindu temple or Buddhist monastery, which would in turn serve its merchant benefactors by staging the needed rituals. Herein the agents of the marketplace, the clerics of the ritual institution, and a variety of political agents inclusively participated in the ritual consecrating the *sima* grant and the subsequent interactions themselves, and results acknowledged by those involved were recorded in “permanent” copper plate or stone inscriptions. The texts encoded an entire societal procedure, in that the texts of these grants represented the resolution of negotiations among the multiple networked communities (political, social, and economic) that shared a variety of interests in the Brantas River basin. In sum, the Brantas River basin communities were linked “urban colonies,” where legal marketplace transactions took place and foreign residencies were established at the edge of the regional agrarian hinterland.⁷⁵ These relationships are represented in the following graphic (see figure 4, below), which depicts the *banyaga* at the port’s functional urban core, for the *banyaga* linked the delta traders and peddlers with the local artisans in a networked community of exchange.

In each of the reported grant transactions, the Java ruler was represented by his royal agents and the religious clerics, who supervised and transacted the sacred ceremony that confirmed the delineation of the delegated land’s boundaries and the future income from which funds would be assigned to maintain the church. The boundaries were ritually determined by the local authorities, royalty, local administrators, regional chiefs (*rakrayan*), and, above all, the local *rama*, who were all deferring their income rights to the property. The prominence of the local elders in these linked transfers of the king’s taxation rights on the land (as well as transfers of local income and taxation rights to the property, which were sacrificed in return for ritual merit), implied that local jurisdiction in matters concerning land took precedence over royal power. In the inscriptions describing each transaction, there is a useful accounting of the local political hierarchy. In the lists of participants, the king is clearly at the apex of a societal pyramid, followed by the *rakrayan*, with assorted civil and clerical administrators at the next level, and the *rama* at the bottom. The trade/merchant associations, variously, are at the third or fourth levels in this epigraphic hierarchy. These associations act as administrators accountable for the stability of the port-of-trade and its merchant groups, and accountable, as well, for the

⁷⁵ See John Miksic, “Heterogenetic Cities in Premodern Southeast Asia,” *World Archaeology* 32,1 (2000): 106–20, for his significant challenge to the appropriateness of this “isolated urban” characterization. Miksic argues that “city formation” in its early Southeast Asian context must be based on multi-linear, polythetic criteria, in order to accommodate criteria unique to early Southeast Asia—as in non-Western areas of the world, the application of monothetic, unilinear definitions of “urbanization” are, in his view, inappropriate. According to this analysis, in contrast to the characterization of temple centers as isolated “orthogenetic” sites that were extensions of local culture, early ports-of-trade were clearly “heterogenetic” sites characterized by a variety of interactive societal transactions. Critical to Miksic’s view are the type of productive relationships that take place within an urban core. Miksic’s view contrasts with Paul Wheatley’s 1980’s analysis, which is foundational to Jan Wisseman Christie’s assertion that Southeast Asia had no known quasi-urban sites of its own in the first or early second millennium. See Wisseman Christie, “Trade and Settlement in Early Java,” p. 171.

propriety of their upstream relationships. This pyramid of relationships is represented in figure 5:

Figure 4

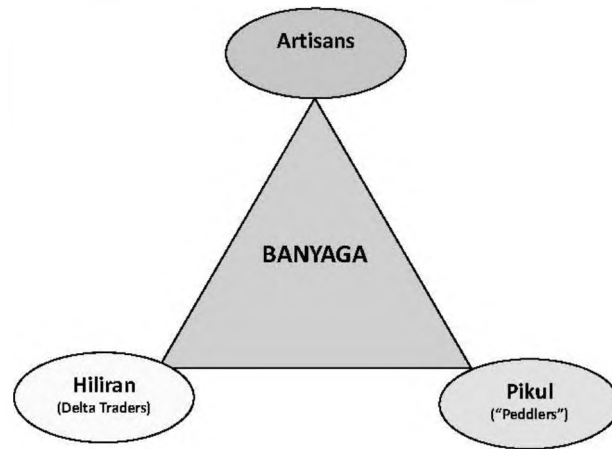
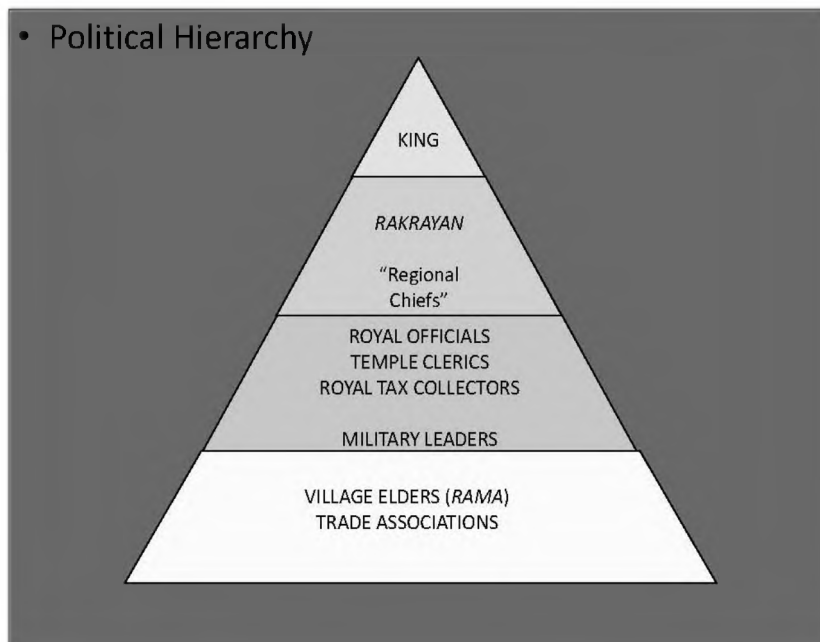


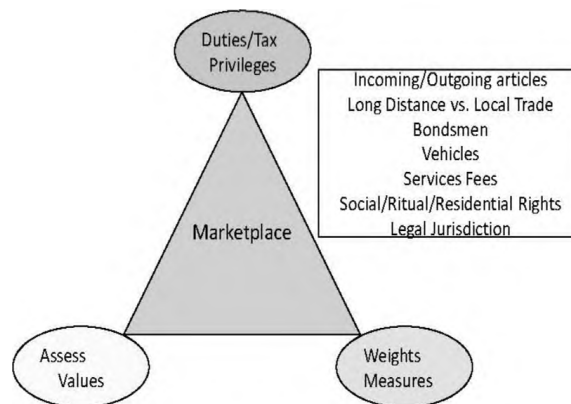
Figure 5



In the ninth- to early eleventh-century inscriptions cited in this study, the contemporary ports-of-trade were accountable to the *banyaga*, who eventually incorporated into local “warehouse associations.” The ports-of-trade were not open “free” marketplaces, but were “administered” markets. This fact is significant in that administered marketplaces in this era assured “fair exchanges” of goods and services, notably in the port marketplaces and in their networked relationships with subsidiary upstream market outposts. The “foreign” visitors and multi-ethnic residential communities of the ports were perceived to have—even if they did not, in reality, have—self-interests that needed to be held in check.⁷⁶ Thus, in the inscriptions, the *banyaga* associations were delegated accountability for equitability, for the assessment of the value of commodities coming into the market, and for the equity of all other market business and business practices. They were thus the civil authority’s agents in the marketplace, assisting in or delegated to make assessments and collections, as represented in figure 6:

Figure 6

Administered Marketplace Transactions

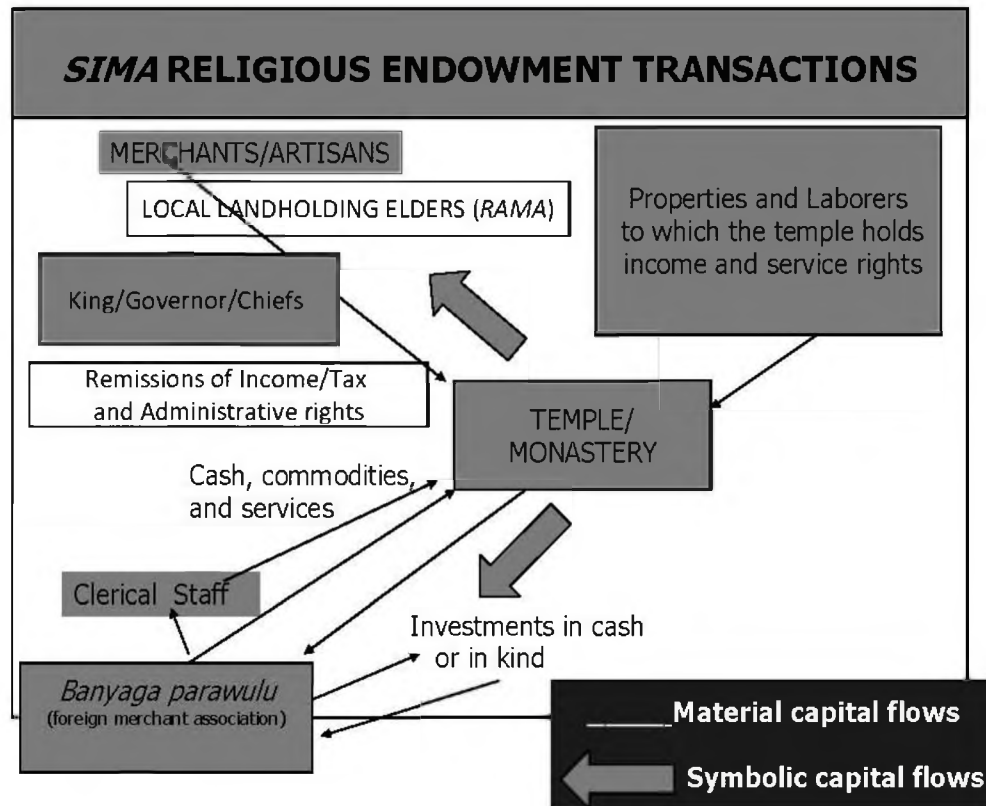


After attending to all these secular management issues, which were foundational to the stability of the local and wider communities as a precondition for developments that would follow, the concluding connection of the grants to religious institutions (temples), and to the representative interests of the “church people,” who were distinguished as a separate entity, draws the inscriptions back to their focal intention: the endowment of Hindu temples or Buddhist monasteries as the center for the “regrouping” of the alien merchant diaspora. In essence, the church provided a source

⁷⁶ Karl Polanyi, “The Economy as Instituted Process” (1957), in *The Sociology of Economic Life*, ed. Mark Granovetter and Richard Swedberg (Boulder, CO: Westview Press, 2001), chapter 1; Clifford Geertz, “The Bazaar Economy: Information and Search in Peasant Markets,” (1978), in *ibid.*, chap. 6; and Marshall Sahlins, *Stone Age Economics* (Chicago, IL: Aldine, 1972).

of meaning to those seeking an identity in a foreign land, as well as offering personal security, individual and collective, and ascribed or constructed identities as the basis of social meaning.

Figure 7



The church provided an historical rootedness for the merchants as members, rather than as aliens.⁷⁷ Foreign merchants were a multiple threat to local stability, whether physically or as a source of a new marketplace community based in a heightened material culture and a consequent social hierarchy, or as self-interested individuals who would induce marketplace transactions based in the pursuit of profit over communal welfare. Foreign merchants thus threatened to make the traditional upstream community vulnerable to autonomous innovation, and the resolution—the establishment of a temple or monastery coincident with the institutionalization of the *banyaga*—was a means to protect local authority and power. In the various inscriptions, the inclusive local society was defined by its productive roles, with nodal connections and exclusionary potentials. The church was thus the institutional center of a series of

⁷⁷ In this same light, the initial Muslim artifacts from the two late tenth-century shipwrecks document a Muslim diaspora, members of which most likely resided in the ports and commonly practiced their faith as a statement of their communal religious bonds in a strange land. This same practice was typical of diasporic Muslims in their initial port residencies in contemporary India. See Lambourn, "India from Aden."

networked relationships that symbolically depended on the clergy's critical transformation of material into spiritual capital, as represented in figure 7 (above).⁷⁸

Concluding Commentary

This study began by reviewing the importance of the international maritime trade, as it set in motion societal transitions in ninth- and tenth-century Java. The physical remains of shipwrecks pair with contemporaneous temple reliefs to substantiate the theory that international shipping, and local consumption of imported commodities derived from it, were commonplace by the ninth century. Tenth-century epigraphy records the acculturation of maritime diasporas into local societies, acculturation facilitated by negotiated relationships with Javanese monarchs, with multiple consequences. The first significant consequence was the development of the downstream deltas of east Java as transitional plain-based rice-producing regions that acted as a buffer between the coastal ports and the upstream wet-ricelands. The second was the assertion of monarchical authority over these newly developed delta regions, as well as the coastal ports-of-trade. A third was that the negotiated settlements documented in the tenth-century inscriptions established networked relationships among members of the merchant diaspora, concentrated "urban" production center metalworkers, and Javanese monarchs, and these contracts served to contain legally the commercial "foreigners" in their own administered downstream domain. The *banyaga* were collectively linked to the upstream by a variety of "delta traders" and "peddlers" who were ultimately accountable to the merchant elite residing in the port-based community. These early transactions were the source of subsequently stable pluralistic communities that contributed to the Indian Ocean trade boom that would follow in the eleventh century.

As noted above, networks based in the maritime diaspora communities need not be considered exclusively commercial. Though these networks examined above were, at their core, commercial, and it was clearly their purpose to facilitate trade, the multifaceted interests of the networked participants can be meaningfully understood in the context of the intersection of different types of community interests. This study has specifically highlighted the overlapping of commercial, societal, religious, and political affiliations that were vital to the coexistence of these groups and that were necessary to support their common interests. The complexities faced by the ninth- to eleventh-century marketplace-based artisans and merchants, and the strategies that they developed to resolve potential conflicts, demonstrate the creative societal potentials that were available to the variety of participants as Java became a major center in international maritime trade.

In conclusion, it is necessary to return to the issues raised in the fifth-century west Java Purnavarman inscriptions that were introduced at the beginning of this study, as similar concerns and their resolutions are represented in the cited tenth-century east Java inscriptions. Though separated by five centuries, Java's monarchs mutually recognized their need to mitigate the isolation of their ports-of-trade, and the variety of consequences resulting from that isolation, by creating zones of connection between

⁷⁸ Pierre Bourdieu, *Outline of a Theory of Practice* (Cambridge: Cambridge University Press, 1977).

their downstream ports-of-trade and their productive upstream agricultural hinterlands. First among their priorities was the need to facilitate downstream settlement, and in each case this involved dam construction initiatives. Dams controlled the seasonal monsoon floodwaters and allowed the drainage of downstream swamplands, thus sustaining wet-rice (*sawah*) cultivation, as well as providing a protected anchorage for ships engaged in international trade. Java's rulers would have had ample reasons to support the success of downstream wet-rice cultivation. Above all, wet-rice cultivation could support relatively large concentrated populations, and these people would, in turn, produce a sufficient agricultural surplus to sustain the needs of a court.

The Purnavarman inscriptions secondly cite the king's military victories, as testament that political stability was the foundation for local productivity. Similarly, the tenth-century east Java inscriptions celebrate the unifying political initiatives of the monarch, and substantiate the fact that east Java monarchs took a more direct role in economic and administrative affairs than had been true of their central Javanese predecessors. The active role adopted by the east Java rulers is especially notable in the inscriptions that describe monarchs restricting the movements of port-based "foreign" commercial specialists who sought to become more involved in the upstream markets, substantially confining them to the coast in favor of Javanese traders who acted as the intermediaries in upstream-downstream exchange. In part, this strategy insured equitable trade, but it also induced locals to be productive, as they were motivated by the reasonable expectation that they would have access to newly available foreign consumables, such as those represented in the shipwreck cargoes. The consumption of such goods by the indigenous population is substantiated in the widespread archaeological distributions of imported ceramics and other consumables in the Java upstream areas. Even more significantly, these initial restrictions on merchant and artisan mobility represented the tenth-century east Javanese kings' responses to the instability of the local political landscape, in which the assertive monarchs were consolidating their political authority against their regional rivals. Royal control over iron imports and iron production are especially notable topics in the cited inscriptions, as tenth-century monarchs restricted iron production to the coast to negate their political opponents' capacity to manufacture iron weaponry to oppose the monarch's troops.

A stable, productive delta insured that the agricultural goods required by the international traders would be supplied. Coastal-based traders and artisans returned goods of foreign origin or specialized services (e.g., high quality craft production) to the hinterland agricultural producers. Agricultural and imported commodities entered the upstream trading networks either laterally, through direct barter between producers and consumers, or vertically, through political or religious institutions or through the developing hierarchical commercial networks documented in the tenth-century inscriptions. Barter was the primary means of exchange in earlier times, though by the tenth century monetized commercial transactions using a variety of imported gold and silver coinage and metallic bars became alternative options in larger-volume marketplace exchanges (e.g., wholesale trade, as described in the cited documents). In both types of exchanges, tenth-century trade depended on units of standardized weights rather than commodity price indexes based on monetary value.

The armies and administrative corps of the new tenth-century east Java monarchies were not large enough to induce *sawah* producers to remit contributions of food or labor purely through the threat of force. Instead, would-be elites had to offer inducements, such as protection or material or ideological rewards. There is no evidence that monarchs dominated the countryside and monopolized the rice trade by means of tax assessments, and while monarchs might assume a role in the initiation of east Java irrigation networks, these irrigation systems were built and maintained mostly by the locals, often in service to local temples that were also the beneficiaries of the increased productivity, rather than the state. There was thus local incentive to invest in agrarian development to produce the surpluses that could bring traded luxuries to the local producers, and it was the locals who continued to control the irrigation networks.⁷⁹

Thirdly, the Purnavarman inscriptions honor him as a beneficent monarch, whose secular initiatives were all intended to improve societal material welfare, but, even more critically, the inscriptions note that his patronage and his personal bond with the Indic divine Visnu secured his society's spiritual well-being. Similarly, the cited tenth-century inscriptions, whether Hindu or Buddhist, all end with a religious ritual covenant: those who honor the terms of the epigraphic charter are promised prosperity, and those who do not, as well as all their families and associates, are threatened with a variety of horrific consequences. As in Purnavarman's time, tenth-century political elites secured food and labor from subordinate cultivators by means of material rewards, such as foreign luxury goods, or through ideological rewards, such as titles, temples, and sacred rituals, rather than by threatening military intervention. The mediating function of religious institutions was demonstrated, for example, by royal decisions to consecrate religious endowments. Thus, the Indic religious tradition was the cultural "umbrella" under which Javanese shared a common Hindu or Buddhist bond with most of the commercial diaspora in Java's tenth-century ports. A royal decision to consecrate an endowment in support of a Hindu temple patronized by port-associated metalsmiths can be taken as evidence that religion's conciliatory function was appreciated by the elites.

This situation would significantly change in the following centuries, when the major participants in Java's ports-of-trade were increasingly Muslim rather than followers of the Hindu or Buddhist traditions; the Islamic artifacts from late tenth-century shipwrecks document the early stages of this transition. When there was no longer a common basis for cultural networking between the hinterland and the coast to neutralize other societal differences, ports-of-trade had greater potential to become marginalized as alien urban spaces on Java's coastal periphery.⁸⁰

By pairing shipwreck artifacts with Javanese inscriptions, this study has reconsidered previously known primary source materials in light of the new archaeological evidence. At this point, admittedly, researchers are still at the critical stage and are in need of confirming archaeological excavations at early Java coast port sites that were foundational to Java's subsequent networked coast-hinterland

⁷⁹ Peter Boomgaard, *Southeast Asia, An Environmental History* (Oxford: ABC-CLIO, 2007), pp. 57–85.

⁸⁰ M. C. Ricklefs, *Mystic Synthesis in Java: A History of Islamization from the Fourteenth to the Early Nineteenth Centuries* (Norwalk, CT: Eastbridge, 2006).

relationships. This exploration of overlapping local and wider political, economic, religious, and societal settings consequent to Java's new importance as a major emporium in the international maritime trade is summarized in the final graphic, figure 8, which is intended to encourage further dialogue.

Figure 8

